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CALFED Bay-Delta Program Role and Policy  
With Respect to San Joaquin River Water Quality Problems  
July 1, 1997

The CALFED Geographic Problem Area is the legally defined Delta. CALFED will seek to resolve problems within this area. It is understood that some species that inhabit the Delta are impacted by conditions outside the Delta. Also, areas outside the Delta are sources of water quality problems affecting the Delta, its inhabitant species, and users of Delta water. In resolving the problems of the Delta, CALFED may undertake actions throughout its Geographic Solution Area, as necessary. The CALFED Solution Area includes the San Joaquin River watershed, whereas the San Joaquin Valley includes the San Joaquin River watershed and Tulare Lake Basin. Water quality parameters of concern in the San Joaquin River and Delta Estuary, as defined by the Water Quality Technical Group, are shown in Table 1 attached. Water quality problems associated with these parameters are the focus of CALFED activities within the San Joaquin River watershed. However, although not specifically included in the CALFED water quality program, it is recognized that overall solutions to the drainage problems of the San Joaquin Valley must take Tulare Lake Basin into account.

Sources of water quality problems in the San Joaquin River and its tributaries include:

- agricultural tail water, or return flows, which may contribute salts, nutrients, pesticide residues, pathogens, and turbidity;
- subsurface agricultural drainage that may contribute salts, nutrients, pesticides (some fungicides), selenium, and other trace elements. The western side of the San Joaquin River Basin is the primary source of selenium entering the San Joaquin River and Delta (though refinery discharges are most significant in the Carquinez Straits/Grizzly Bay area of the estuary);
- storm runoff that may contribute selenium, turbidity, pathogens, organic carbon, nutrients, pesticides, and other chemical residues;
- municipal and industrial discharges that may contribute salts, trace elements, nutrients, metals, pathogens, chemical residues, oil and grease, and turbidity; and,
- acid drainage from inactive and abandoned mines which introduce metals such as zinc, cadmium, copper, and mercury.

Of these sources, subsurface agricultural drainage discharged to the San Joaquin River from the Westside of the San Joaquin River Basin perhaps causes the most significant water quality

problems in the River. During times of low flow, agricultural drainage discharges to the River may constitute the majority of flow. At present, control measures largely consist of irrigation and drainage management (source reduction) activities. Incidental dilution of salt also occurs as a result of upstream reservoir releases. Other potential measures for protection of water quality and wildlife and sustainability of agriculture may include timed drainage release, drainage treatment to reduce trace elements and other contaminants, salt separation and utilization, drainage reduction and reuse, and land use changes which may include cropping changes, land fallowing and voluntary, compensated land retirement.

A plan for in-basin management of agriculture-related water quality problems in the Westside San Joaquin Valley portion of the San Joaquin River Watershed and Tulare Basin was advanced in 1990 by the San Joaquin Valley Drainage Program (a joint Federal and State interagency program) in a report entitled, "*A Management Plan for Agricultural Subsurface Drainage and Related Problems on the Westside San Joaquin Valley.*" In 1991, four Federal (USFWS, USNRCS, USBR, USGS) and four State (DWR, DFA, DFG, SWRCB) agencies signed a Memorandum of Understanding, forming the San Joaquin Valley Drainage Implementation Program (SJVDIP) in which all parties agreed to use the 1990 Management Plan recommendations "as the principal guide for remedying subsurface agricultural drainage problems" and to "work together...to implement all components" of the 1990 Plan.

In 1995, the State Water Resources Control Board, a SJVDIP member agency, adopted the *Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary*. The Plan states, "ultimately, it will be necessary for the in-basin management of salts to be supplemented by the disposal of salts outside of the San Joaquin Valley for the protection of beneficial uses" and that "it is necessary to begin planning for a long-term solution to the San Joaquin Valley drainage problem". The SJVDIP 1990 Plan also recognized that ultimately there will be a need for salt removal from the Valley, after in-Valley solutions have been implemented. The SWRCB has also recommended that consideration should be given to taking advantage of winter flood flows to dilute and remove salts from low-lying areas of the San Joaquin Valley as part of a general program to adjust the timing of salt load discharges from low flow to high flow periods.

Considerable progress has been achieved in implementing some of the recommendations and policies established by the 1990 Management Plan and the 1991 MOU. But, due to lack of funding, uncertainty in the feasibility of implementing some recommendations, and other problems, growers have been unable to fully implement the 1990 Plan recommendations.

In 1995, the Bureau of Reclamation and the San Luis & Delta-Mendota Water Authority signed an agreement allowing the interim use of a portion of the San Luis Drain to convey agricultural drainage water to a tributary of the San Joaquin River, bypassing wetlands areas in the Grasslands Water District, as recommended in the 1990 Management Plan. The agreement requires individual drainage districts to form a joint drainage authority to implement the program, and to meet increasingly stringent selenium load targets over a five-year period.

Project oversight is provided through the Drainage Oversight Committee that includes representatives of the CVRWQCB, Department of Fish and Game, U.S. Bureau of Reclamation, U.S. Fish and Wildlife Service, and U.S. Environmental Protection Agency. The Grasslands Bypass Project is consistent with the 1996 Amendments to the Water Quality Control Plan for the Central Valley Basin (Basin Plan Amendments) prepared by the CVRWQCB.

On December 2, 1994, Judge Oliver W. Wanger of the U.S. District Court, Eastern District of California, rendered a decision on the lawsuit brought by Sumner Peck Ranch, Inc. Against the USBR, and found that the USBR had made an unlawful policy decision to not complete the San Luis Drain and provide drainage relief to agricultural lands within the CVP service area in violation of the San Luis Act. The judge ordered the USBR to apply to the SWRCB for the issuance of a Discharge Permit for completion of the Drain. The USBR has filed an appeal, but the court order has not been stayed pending appeal. On April 18, 1996, the SWRCB adopted a resolution that the NEPA/CEQA process will be used to establish the framework for permit approval. Negotiations are currently ongoing between the USBR, SWRCB, and Westlands Water District to sign a MOU and establish the NEPA/CEQA process.

Within the context of current agricultural drainage management activities in the San Joaquin River watershed, CALFED establishes the following policies concerning its role with respect to water quality problems of the San Joaquin River:

- CALFED will facilitate implementation of measures to correct water quality problems of the San Joaquin River and its watershed, particularly those related to drainage management, by encouraging coordination among regulatory agencies, service agencies, and local drainage entities; by facilitating funding; and, by helping to increase awareness of drainage and other water quality problems, along with the need for corrective actions.
- CALFED will adopt an overall watershed approach for encouraging comprehensive solutions to the water quality and other problems of the Valley that affect the Delta and its inhabitant aquatic and terrestrial plant and animal species, and to gain broad stakeholder support for these solutions.
- CALFED endorses and supports continuing monitoring, assessment, applied research, and demonstration projects that will advance knowledge to solve the drainage and water quality problems of the San Joaquin River and its watershed that affect the Delta.
- CALFED recognizes the 1990 Management Plan and 1991 SJVDIP MOU as the continuing basis for interagency cooperation and joint actions to solve drainage problems.
- CALFED recognizes the SJVDIP and the Drainage Oversight Committee as the primary entity to provide direction for managing implementation of interim solutions to subsurface drainage problems in the San Joaquin River and its watershed. The interim

solutions endorsed by the SJVDIP are an important component of a durable, long term solution to drainage problems of the River, and should be implemented.

- In working toward long-term solutions to Valley drainage and pollutant problems, CALFED will encourage consideration of various mechanisms for pollution prevention, reduction, and management in the San Joaquin River watershed, consistent with its goal to develop balanced solutions.
- As part of the overall program, CALFED will facilitate implementation of measures to correct water quality problems from sources other than subsurface drainage within the San Joaquin River watershed that affect the Delta. Potential actions to correct these problems are being developed under the CALFED Water Quality Program, and may include on-farm management practices that reduce sources of chemical introductions to the San Joaquin River and Delta estuary.
- To fulfill its role to facilitate implementation of detailed policies, plans and actions, CALFED staff will involve San Joaquin Valley stakeholders in developing solutions, and will undertake an outreach program to assure that the interests of all stakeholders are represented.
- CALFED water quality actions in the San Joaquin River watershed must be cost effective and must meet the CALFED Solution Principles of affordability, durability, implementability, equity, conflict reduction, and non-redirection of significant impacts.

The mechanisms by which CALFED will implement these policies may include actions by CALFED staff, CALFED agencies, SJVDIP, and through new or restructured institutions resulting from the CALFED Assurances Program.

In determining priorities for action, the following points will be considered:

- the degree to which the proposed activity will improve the quality of Sacramento-San Joaquin Delta Estuary waters, in comparison to the cost of implementing the solution;
- A preferred solution would help to correct Tulare Lake Basin drainage problems as well as those affecting the Delta, and this consideration may enter into CALFED decision making; however, priority will be given to areas of the San Joaquin River watershed that directly affect the River and Delta estuary.
- whether proposed activities related to water quality are consistent with CALFED objectives related to ecosystem restoration, water supply reliability, and system integrity goals;
- the extent to which the problem and proposed solutions have been investigated and

technically documented;

- the degree to which the proposed solution employs proven technology;
- though all proposals would be considered, priority may be given to projects having prospective local/state/federal participants or partnerships to support problem resolution, and where a suitable management infrastructure can be organized;
- whether CALFED participation would reduce responsibilities of any party for compliance with cleanup orders, site remediation, environmental mitigation, or other requirements arising from law or regulation. If so, CALFED would not share this burden, but may consider partnerships that would institute water quality improvements beyond those mandated of other parties.

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**TABLE 1**

**CALFED Bay-Delta Program Water Quality Parameters of Concern**

Cadmium	Dissolved Oxygen
Copper	Salinity (TDS, EC)
Mercury	Temperature
Selenium	Turbidity (susp. solids)
Zinc	Unknown Toxicity
Carbofuran	Bromide
Chlordane	Nutrients (Nitrate)
Chlorpyrifos	Pathogens
DDT	Organic Carbon
Diazinon	Boron
PCBs	Chloride
Toxaphene	pH
Ammonia	Sodium Absorption Ratio
Temperature	Alkalinity